Language diversity impact on the self-efficacy of members in teams

by

Flávio Alexandre dos Santos Ferreira

Master Dissertation in Management

Faculdade de Economia, Universidade do Porto

Supervised by:

Maria Teresa Vieira Campos Proença

Maria Helena Gonçalves Martins

2017

Biographical note

Flávio A. S. Ferreira is a Master in Management student at the Faculty of Economics of University of Porto, in Portugal. In 2015 he graduated in Economics, in the same faculty.

During the course of the Master degree, he worked as an accounting technician trainee for one year, in a team composed of Portuguese and French colleagues. In May 2017, he started working as a consultant in international business, also in a multicultural team.

Prior to his professional experience, he was part of an academic association in his own faculty for two years, where he helped and developed contacts with Erasmus students from all over the world.

These experiences are a result of his interest in multiculturalism, geography and foreign languages. He currently speaks nine languages, of which five fluently. His academic course has allowed him to combine these interests of him with the fields of Economics and Management.

Acknowledgments

I would first like to express my appreciation to Professor Teresa Proença, my thesis supervisor, for her immense help and collaboration in the outline of this work and in the theoretical part. I would also like to express my gratitude to Professor Helena Martins, who is this work's co-supervisor. She was very cooperative and joined me to devote a considerable period of her time to reach the design of the methodological and statistical analysis parts. Both professors were essential in the development of this work, namely for their constructive critiques and enormous patience guiding me through the course of this thesis. I learned a lot with their knowledge.

I would also wish to thank my family, friends and colleagues for their support and tolerance. Since I worked fulltime during the course of this thesis, I had to devote less time to family and friends, given the time constraints imposed by both job and thesis. Nevertheless, my team leaders were always flexible to let me leave the office earlier, whenever I needed to invest more time in this work. Also, my family and friends were always backing me, understanding the importance of this mission, which I believe to have a great and positive impact in my life.

Finally, my grateful appreciation is directed towards those, who took some minutes of their time to answer this work's survey. Their effort let this work rely on significant results and consequently their effort was a key to this work's contribution to literature on the topics of Human Resource Management (HRM), languages and self-efficacy.

Abstract

All over the world, Human Resource Management (HRM) departments in various corporations are facing new challenges, which are consequential to the growing cultural diversity in working groups. Globalization, allied to more relaxed labor migration policies and technological advance, is the key factor behind this social trend. This study aims to analyze language diversity in teams, especially in what concerns its impact on each member's self-efficacy. Even though there is a growing academic work devoted to explain language impacts in the professional world and to develop the concept of self-efficacy, the lack of connections between both sides is a critical gap in the literature that this study ambitions to deal, covering as well aspects such as language fluency, cultural intelligence and personality traits.

The answer to this work's questions is a result from a quantitative analysis, by means of a survey directed at thirty thousand university students, which are part of the next generation entering the challenging labor market.

The statistical analysis conclude that language diversity has no clear impact in self-efficacy, however fluency in the vehicular languages of groups has. Fluency has a bolder impact in self-efficacy of team members, when language diversity is higher, and when each member's cultural intelligence and extraversion levels are higher as well. These conclusions driven by such connections are targeted at providing managers with sound enlightenments about the importance of language diversity in their teams.

JEL-codes: F66, M50, M54, Z13

Key-words: human resources, language, teams, self-efficacy

Resumo

Por todo o mundo, os departamentos de gestão de Recursos Humanos (RH) em várias empresas estão a enfrentar novos desafios, como consequência do crescimento da diversidade cultural nos grupos de trabalho. A globalização, aliada a políticas de migração laboral menos restritas e ao avanço tecnológico, é o fator-chave por detrás desta tendência social. Este estudo tem como objetivo analisar a diversidade linguística nas equipas, especialmente no que toca ao seu impacto na auto-eficácia de cada membro. Ainda que haja um crescente número de trabalhos académicos dedicados à abordagem do impacto da língua no mundo profissional e ao desenvolvimento do conceito de auto-eficácia, a falta de conecções entre os dois lados é uma lacuna crítica na literatura que este estudo ambiciona abordar, cobrindo também aspectos como a fluência linguística, inteligência cultural e os traços de personalidade.

A resposta às questões colocadas neste trabalho são fruto dos resultados de uma análise quantitativa, por meio de um inquérito dirigido a cerca de trinta mil estudantes universitários, os quais constituem parte da próxima geração a entrar no mercado laboral desafiante.

A análise estatística conclui, que a diversidade linguística não tem um impacto claro na autoeficácia, contudo a fluência nas línguas-veículo dos grupos tem. A fluência tem um impacto na autoeficácia mais destacado, quando a diversidade linguística é maior, e também quando os níveis de inteligência cultural e extroversão de cada membro são maiores. As conclusões derivadas destas conecções terão como alvo os gestores, enriquecendo o exercício dos seus cargos com esclarecimentos fundados sobre a importância da diversidade linguística nas suas equipas.

Códigos-JEL: F66, M50, M54, Z13

Palavras-chave: recursos humanos, língua, equipas, auto-eficácia

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Introduction

There's a noticeable growing presence of multicultural teams in the world's corporations. These teams are considered to be the future's mainstream on the way people collaborate within enterprises (Tenzer & Pudelko, 2015), leading to their success in such a connected and interdependent world. If companies once competed in the world's markets with mostly national workers, nowadays companies are the result of the combination of international minds, sometimes through means of mergers and acquisitions (Louhiala-Salminen et al., 2005).

Such present scenario was only possible due to the growing number of migratory flows around the world, joined by many battles concerning labor migration rights and laws, especially in Europe, and also possible due to an exponential development of technology. These improvements made the globalization of markets a real topic. Language diversity was then brought to companies by these intercultural groups, as a result of the different backgrounds and countries of each group member. If once foreigners had to fully adapt themselves into the group majority's culture and language, in order to be accepted and integrated in teams, time has let governments establish anti-discrimination laws, and more recently, it has made companies think about the importance of a multicultural workforce on the development of new ideas and businesses (Leca et al., 2014).

Human Resource Management (HRM) departments have now a rising tone in the companies' strategic decisions, given the fact that people have become an important element in the agenda of many corporations. Additionally, language is present in the daily life of multinationals, therefore it must be included in strategy (Marschan et al., 1997). However, language diversity presents a new set of organizational challenges to cope with, influencing aspects such as overall power (García & Cañado, 2005; Tenzer & Pudelko, 2017). Thus, language needs to be considered as a part of the strategic scope of multinational companies (Marschan et al., 1997).

Languages are usually referred to be an obstacle in the communication between multicultural team workers, creating tensions and lack of trust between those who don't speak the same language (Henderson, 2005), and ultimately slowing down and increasing the cost of decision-making (Harzing et al., 2011). Despite this,

investigations and discussions on the role of language had been relatively occasional (García & Cañado, 2005), if existent at all two decades ago. The role of language is often forgotten in horizontal communication and team building. Conversely, multicultural teams have been more analyzed by a broader lens, incorporating all cultural aspects besides language. However, some works, such as Henderson (2005), support the idea that language factors are bolder at explaining differences and outcomes than the majority of all other cultural aspects, whenever it comes to communication in groups. Hence the decision of focusing on language in this research.

Intending at establishing a connection between language diversity and an outcome of importance to managers, the idea of linking the impact of language diversity with the notion of self-efficacy came above as the aim of this research. This linkage also represents a gap found in the literature, even though there is a recent growing number of studies devoting themselves to professional world linguistic issues and to the development of self-efficacy's idea.

Self-efficacy has its basis on the works of the Canadian psychologist Albert Bandura. This idea represents the beliefs of individuals in their capacities used to carry on with different tasks. It is related to the psychosocial sphere of research, covering some of the reasons that bring individuals to have several levels of performance (Bandura, 1997). It is one of the most studied concepts in the modern psychology research (Judge et al, 2007). The importance of this concept in the organizational context lies in the connection between self-efficacy and performance (Stajkovic & Luthans, 1998). The scientific pertinence of covering the gap previously mentioned, is then connected to the main managerial aim of International People Management.

Conversely, in an intercultural context, cultural intelligence has an important role in facilitating interpersonal relationships, as it is defined as the aptitude to function in multicultural settings (Ang et al., 2007). Therefore we believe that language diversity and the perception of self-efficacy in multicultural teams may not be explained without taking into account cultural intelligence. In the same vein, extraversion, a personality dimension (McCrae & Costa, 1991), may be an important facilitator of interpersonal relationships in every human context, such as those from the professional, personal and

international spheres. For these reasons, these two factors, i.e. cultural intelligence and extraversion, are included in the study.

In order to show the degree of connection between language diversity and self-efficacy of members in teams, a survey was conducted to university undergraduate and master-level students. These students are the first generation in the queue to enter the labor market, and usually experience intercultural settings during their academic lives before entering the professional world, even if experiences, such as Erasmus, do not necessarily improve students' intercultural mindset (Pedersen, 2010). Also, the specific and measurable variables, herewith concerned, justify the usage of a quantitative analysis, much directed at covering the language diversity and a respective range of outcomes.

This introductory part will be followed by the literature review, starting with an analysis of linguistic diversity in the 1st chapter, passing through the variables of self-efficacy, cultural intelligence and extraversion in the 2nd and 3rd chapters, and reaching the definition of this work's hypothesis in the 4th chapter. The methodology and its results' analysis will be covered in the 5th and 6th chapters, respectively. Finally, a chapter is dedicated to suggestions on further research, followed by a summary of this work.

Chapter 1. Linguistic diversity

The first chapter is dedicated to the main factor of this work. Linguistic diversity, or language diversity, consists of a series of concepts, influences and measures, interconnected with those related to the concept of self-efficacy, to be studied afterwards.

This chapter begins with a clarification of the definition of linguistic diversity, followed by an overview of language relativeness and intelligibility. The chapter goes on with a quick view over how literature regards language in management studies, ending with a critical analysis to that literature, attempting to explain the linkage of language diversity with HR and team dynamics.

1.1. Definition of linguistic diversity

The definition of language diversity is not a clear-cut issue. The most straightforward definition only involves a numerical range. For instance, a team is more linguistically diverse, if there are more members speaking different languages. However, this term can have a more complex definition, if the relationship between languages is taken into account. The following table depicts an imaginary composition of two working teams:

Table 1: Imaginary composition of two fictional working groups

Group A (5 members)	**Group B (4 members)**
Vehicular language: Spanish	Vehicular language: English
Member 1: Portuguese	Member 1: Portuguese
Member 2: Spanish	Member 2: Swedish
Member 3: French	Member 3: Finnish
Member 4: Italian	Member 4: Japanese
Member 5: Romanian	

Source: Author's elaboration

In what concerns the simple numerical diversity, the first group is more diverse than the second one (five different language members against four, respectively). However, by analyzing the relationship between the languages of each group, the second group overcomes the first one. While in the first group there are only Romance languages being spoken (all part of the same language family, the Indo-European family), in the group B there is place for three different language families, namely the Indo-European (for the vehicular language, Portuguese and Swedish), Uralic (for Finnish) and Altaic (for Japanese). Telling which team is the most linguistic diverse is then a matter of how one gives importance to number or to language relativeness in the definition of linguistic diversity. Due to limitations in statistic procedures, which are further detailed in the fifth and seventh chapters, this work uses the numeric way of measuring language diversity.

1.2. Relationship between languages and intelligibility

Language relativity, or relativeness between languages, is mostly traced to historical language evolutions (Beaufils, 2013; Gooskens, 2007). Today's languages are descendent from proto-languages, which were formerly spoken. These proto-languages expanded geographically and, with time, dialects of each proto-language started to appear in different places, ultimately giving place to different languages, as differences between dialects grew more and more. One example of this remotes to Proto-Indo-European. It was spoken around the Eurasian steppe of eastern Ukraine, southern Russia and the Caucasus. The aptitude of local people to domesticate horses, gave them ability to expand through Eurasia, therefore creating new varieties of this proto-language, eventually spreading through different families and languages that today are spoken by almost half of the world's population, such as Romance languages (e.g. Portuguese and Spanish), Germanic languages (e.g. German and English), or even Indo-Iranian languages (Jorgensen, 2017). However, different theories persist enlightening this expansion.

This language relativity is among the three factors explaining language intelligibility, i.e. the capacity of understanding another language by the generality of a language's native speakers. Then, language intelligibility is predicted by the relationship between languages, more specifically by their phonetic distances, but not so much by their lexical similarities. However, it also depends on people's attitude towards the other language, and on their contact with it (Gooskens, 2007). For instance, semicommunication, i.e. communication between different languages' natives without the use of a lingua franca, is widely used within Scandinavia, but not so much between Dutch languages' speakers, even if phonetic distances are lower in Dutch languages. This happens due to the fact that Dutch languages (Dutch, Afrikaans and Frisian) speakers are not so exposed to each other's idioms, while Swedish, Danish and Norwegian people are.

1.3. Language and Management studies: literature's regard

Language has historically been a forgotten topic in the generality of multinational management studies (Marschan et al., 1997; García & Cañado, 2005; Tenzer & Pudelko, 2015). These and other authors defend so, due to the fact that, while language covers virtually every single dimension of such companies, there was always little importance given to this particular factor in studies concerning cultural impacts. Such scenario has its foundation on academics' general acceptance of the big impacts of cultural barriers (as a whole) in intercultural issues. Language barriers alone are viewed as an obvious barrier to the team members' integration, thus left behind in the deeper analysis (Harzing et al., 2011). Additionally, the use of English is frequent in the international working context, leading some researchers to forget the real language impact among the spectrum of the cultural factors affecting international or intercultural issues in organizations, especially those with regard to the multicultural teams (Marschan et al., 1999). For instance, the usage of a single language within a group blinds some researchers about the possible miscommunication and misinterpretation possibilities (Henderson, 2005; Tenzer & Pudelko, 2015). Also, García & Cañado (2005) alert to the fact that people speaking a non-native language, shape their speech according to some patterns coming from their native language.

Nevertheless, a recent growing number of scientists is analyzing the impacts of language in team dynamics, just as the authors previously mentioned in this section. However, their regard tends to be essentialist towards people's linguistic capabilities, and tends to focus only in the negative language diversity impact on team dynamics (Cohen & Henderson, 2017). These latter two authors affirm that the literature's essentialist view on linguistic capabilities is explained by the consideration of capabilities as being dependent on language-specific elements, instead of on language-general ones. In other words, the linguistic capabilities are usually regarded language by language, rather than considered as a combination of multiple language's skills. This ignores the impact of the metacognitive dimension of the linguistic skills, which are present in multicultural teams, especially in the informal interactions between members (Marschan et al., 1999). For instance, a Swedish person also speaking Czech, may understand a little bit of Norwegian and Slovak, which are related languages to those,

respectively. That Swedish person may struggle less in teams containing Norwegian and Slovak colleagues, as he or she may rely on the indirect knowledge of their colleagues' native languages, i.e. metacognitive knowledge, which facilitates further communication.

In short, the literature's insensibility to the importance of language diversity contributed to choosing language diversity as the main factor of this study, instead of a wider range of cultural aspects. This focus on language aims at reinforcing future research about the importance of language diversity alone. The unique impact of this factor is therefore highlighted, outstanding from the whole cultural aspects in team dynamics, which consequently influence HR Management.

1.4. Linguistic diversity and team dynamics

Language has a particular influencing tone in a wide range of factors characterizing team dynamics. There are positive and negative consequences derived from the presence of several cultures in one team, from which specifically arise those related to linguistic diversity.

Some authors simultaneously present both advantages and disadvantages of this, illustrating the richness driven from different perspectives and from the variety of task expertise, but also alerting to possible misfits in team collaboration (Haas & Nüesch, 2012; Moon, 2013).

Conjugating the outcomes of linguistic diversity with knowledge creation, Lagerström & Andersson (2003) conclude that it is mostly up to communication to strengthen knowledge's proliferation, despite technology allowing its intensification and sharing. Therefore, an effective communication within heterogeneous teams will dictate the strength of knowledge's spread. This is all dependent on the balance between the pros and cons of multicultural teams.

This subchapter will now advance with some specific insight into some team dynamic's features, such as power position, subgrouping and negative emotions, and interpretation. The rather negative illustrations given in each of the following insights are mostly a result of the essentialist and/or negative outlook of literature spotted by Cohen & Henderson (2017), already mentioned in the previous chapter.

1.4.1. Power position

A vehicular language, or lingua franca, is the adopted language between people and/or groups, allowing the communication between the parts, especially when no native language is shared. García & Cañado (2005) advocate that, even if everyone is using the very same vehicular language in a team, often English, members will use it at different fluency levels, bringing grammatical constructions from their native languages. Those speaking the vehicular language natively will automatically outstand during debates. Even if the content of their speeches doesn't blur their colleagues' speeches and ideas, the fact that they use language more clearly is an element, which generally overrates

their discourse, and which lets them manage debates at their will. This allocates power position to those being able to manage communication procedures inside teams (Harzing et al., 2011).

García & Cañado (2005) also stress that not only native speakers have this advantage, but also those, whose native languages are closer to the lingua franca. They gave the example of Dutch and German counterparts, whose languages, by the simple fact that they resemble English at a higher degree, allow them to control the usage of English better than French, Spanish and Italian co-workers do, for instance. This is much related to the language relativeness shown in the chapter 1.2., and to the metacognitive characteristic of language knowledge described in the previous chapter.

Ultimately, those lacking the linguistic capability in the team's vehicular language, are generally unable to communicate their expertise, even if this expertise would be highlighted, had all team members the same linguistic level (Tenzer & Pudelko, 2017). This creates shifts in the communication flows, which switch directions, according to the language's structure and to each member's capabilities (Marschan et al., 1999).

1.4.2. Subgrouping and negative emotions

Thereupon, García & Cañado (2005) found out a subgrouping of less proficient members in certain teams. Spanish and Italian colleagues were linked by their own perceived difficulty in speaking the vehicular language. Such subgroupings usually draw on the phenomenon of code-switching, defined in the team context as the switch of languages between some team members, mostly with the purpose of a better understanding or informal interactions. This imposes its own structure on communication flows and creates language clusters (Marschan et al., 1999). These are viewed as a cause of potential conflict in groups (Khomutova, 2015), making native speakers feel rejected and angry at those colleagues (Tenzer & Pudelko, 2015; Harzing et al., 2011).

Nevertheless, the less proficient member's mistakes were a reason for interlocutors to reconsider the value of their propositions, turning a blind eye to the difficulty of speech formulation, as a way of the so-called "group solidarity" (García & Cañado, 2005).

Subgroupings play a big role in the fueling of negative emotions. Tenzer & Pudelko (2015) and Von Glinow et al. (2004) highlight many consequences at the emotional level. Emotions, such as anxiety, fear, embarrassment, stress, and frustration, tend to be present in non-native speakers. These latter may perceive native speakers as arrogant (resentment towards others), thinking that native speakers may mistrust them for their inferior skills in the vehicular language. These emotions awake tensions and deteriorate effective communication within teams, leading to a negative emotion cycle and subgrouping, as previously stated.

At a personal level, the presence of high levels of language anxiety in non-native speakers makes them experience a series of negative feelings, which may lead to a certain shift of focus from task-related activities to language-related thoughts. This shift may ultimately deteriorate job performance (Haley et al., 2015).

1.4.3. Interpretation

More than the existing impacts on speech mastery and its consequences at the power and emotional levels, language structures are regarded in literature as having impacts on interpretation and perception levels (Henderson, 2005). This author defends the existence of different backgrounds' influence in different interpretation mechanisms. Not only the emitter of the message can have difficulties formulating it, but the receptor may also be constrained in certain ways. This can even extend itself to simple time notions. For instance, while Swedes do conceive time as being measured by “length” words, Spaniards do that recurring to “volume” words (Teitel, 2017). Such basic differences are a starting point to deeper dissimilarities and following misinterpretations.

The capacity to interpret (social) meanings, responding adequately in the context of interactions, is named as "sociolinguistic competence". Therefore, this ability is a result of the influence of culture and language, through an individual's life, in the interpretation of words and meanings. Still, the capacity to interpret can upgrade when there has been some sort of individual exposure to the vehicular language before. University programs, such as Erasmus, are a key point on the strengthening of these abilities (Llanes et al., 2016).

Besides this, Henderson (2005) advocates that interpretation is more dependent on the communication skills of the message's emitter, rather than on its language skills. Also, miscommunication doesn't happen because of poor uses of grammar, but rather due to differences in patterns of discourse and to metacommunication styles. However, these differences in patterns of discourse are themselves allied to the native language's grammar, because of the way it makes an individual formulate sentences.

All these mentioned misunderstandings usually happen when English is used as the team's lingua franca, especially because it is usually used as a vehicular language. Cohen & Henderson (2017) say that English as a lingua franca is a multilingual way of speaking English. This way of speaking English is not based on British/American practices, but rather on the interlocutor's own native language (Louhiala-Salminen et al., 2005). Even forms of address are implied. For example, in their own languages, Spanish workers address others more informally, using the first name, while German counterparts usually address their colleagues using surnames. For Spanish workers, this German procedure is seen as being too formal, while Germans view it as a way to put all colleagues at the same level (Tenzer & Pudelko, 2017).

Lastly, a deficient usage of a vehicular language can cause disruptions in trust development. The misunderstandings coming from unmet interpretations may lead the team, or part of it, to the undertaking of wrong decisions, calling into question the task-specific capacities of some members (Cheng et al., 2016).

Chapter 2. Self-efficacy

The idea of self-efficacy is given detail in this second chapter. The concept and its literary framework are first presented, while its connection with the organization context is given insight afterwards.

2.1. The concept and literary framework

Self-efficacy, sometimes mentioned as "perceived self-efficacy", is a term which appeared in psychology's literature in the latter half of the 20th century, highlighted by its importance in the social-cognitive theory (Judge et al, 2007). It was originally formulated by psychologist Albert Bandura. Subsequently it has been related with many corporation aspects, in many academic works, such as emotional intelligence and authentic leadership. For instance, these two dimensions were proven by Correia (2016) to have positive and significant relationships with self-efficacy.

In one of his works, Bandura (1997) denotes "self-efficacy" as an individual's beliefs in his/her capabilities, derived from the desired control that people want to have over the events, which somehow affect their lives. These beliefs in capabilities are related to the competences used to carry on with tasks with several performance levels.

Twenty years before, Bandura (1977), in one of his primary works on self-efficacy, differentiated outcome expectations from efficacy expectations. While outcome expectations are based on people's estimations of the outcomes resultant from given behaviors, efficacy expectations are convictions on how people can successfully carry on with tasks, in order to achieve final outcomes. Additionally, he claimed that perceived self-efficacy has an influence on the choice of activities and settings, affecting efforts. Therefore, this concept involves two future stages, one belonging to the actions or tasks, and the second one to the outcomes.

Self-efficacy is not restricted to a singular definition, since it varies according to different perspectives (Bandura, 1977; Correia, 2016). The expectations of an individual can take in a bigger or smaller magnitude, depending on the difficulty of the task. They can be more or less generic, reliant on the individual's way of generalizing them to

different scenarios. They can also be stronger or weaker, dependent on how individuals stick to their beliefs, when experiences are disconfirmed.

Also, self-efficacy has a significant number of sources. Bandura (1977) affirms that the personal record of performance, vicarious experience, verbal persuasion and emotions, all account for the differences between self-efficacy levels. For example, Correia (2016) indicates that, if experiences are negatively evaluated, self-efficacy is at risk. A negative performance record will attenuate one's expectations over his/her success in performing tasks. Other authors complement, by saying that it is very hard to unlearn what a person has already learned through experiences lived (Leca et al., 2014).

The studies of self-efficacy have led to this term's inclusion as "generalized self-efficacy" into the group of the four "core self-evaluation traits" (Judge et al., 1998; Judge & Bono, 2001). The core self-evaluation traits are defined as conclusions or evaluations that individuals do about themselves.

Firstly, generalized self-efficacy is an adaptation of Bandura's work, seen as an extension of its scope from a task-level (as defined by Bandura) to a global level, where one's capacities of joining motivation, cognitive assets, and actions, to the control of life events, are internally estimated. Harrison et al. (1996) advocate that general self-efficacy is more determinant than task-specific self-efficacy, at least in new, ambiguous and less familiar settings, which in turn are common characteristics of multicultural teams.

Secondly, the three other core self-evaluation traits are self-esteem, internal locus of control, and emotional stability. Self-esteem corresponds to a person's regard of his/her own value. Internal locus of control is the degree one perceives about its control of its life's events. Lastly, emotional stability, also referred as "low neuroticism", is the secureness and confidence tendency individuals have over themselves.

2.2. Self-efficacy in the organization context

For the past 20 years, some authors have been hypothesizing possible connections between "self-efficacy" and some job-related variables. The works of Judge & Bono (2001), Judge et al. (1998), Judge et al. (2007) and Stajkovic & Luthans (1998) were four of the analyzed studies, whose focus lied on the outcomes/effects of self-efficacy in job-related contexts, such as job satisfaction and performance.

There is a significant correlation between self-efficacy and performance (Stajkovic & Luthans, 1998). This is likely due to the fact that individuals bring with them certain characteristics, related to self-efficacy, into their work environment (Judge et al, 2007). However, Stajkovic & Luthans (1998) also affirm that this correlation is only more significant in tasks of low complexity. Hard and complex tasks usually make individuals think that they are not able to cope with them. They further conclude that individual differences are at least as important as self-efficacy in the prediction of performance.

Judge and Bono (2001) showed a better connection between generalized self-efficacy and job satisfaction, as part of a study establishing relationships between the four "core self-evaluation traits" and job satisfaction and performance. From these four traits, generalized self-efficacy was the most correlating trait with job satisfaction, and the second most correlating with job performance, just behind self-esteem. This is in line with Judge's former work, indicating that self-esteem and generalized self-efficacy contributed the most to the concept of core self-evaluations (Judge et al., 1998). Regarding the other traits, individuals with internal locus of control are generally more satisfied, due to their tendency to be away from undesirable jobs, while emotionally unstable individuals experience negative effects in both aspects.

This explains the usage of self-efficacy as a fundamental piece of this work. It may be regarded as a proxy of job performance and job satisfaction, two important job-related variables with impacts in the corporation world, and of very importance to the generality of managers.

Not only self-efficacy impacts the performance at work, but it also has impacts in the performance at school and university. The higher the level of one student’s self-efficacy is, the more likely it is for him/her to be integrated in school/university, regarding the

academic, social, personal and career ambition domains (Casanova & Polydoro, 2011; Weng et al., 2010). Just like in the professional world, task-related self-efficacy is present, meaning that different school subjects contribute differently to one student's self-efficacy level. For instance, Wood et al. (2015) concluded that Math self-efficacy predicted better academic integration than English self-efficacy, while Weng et al. (2010) found differences between Computer Science and Information Management students at their self-efficacy and integration levels. Finally, it is important to remark that low self-efficacy, even at pre-professional stages, may influence one's future crucial career decisions (Haley et al., 2015).

Chapter 3. Cultural Intelligence and Extraversion

Cultural intelligence and extraversion are factors said to have effects in perceived self-efficacy levels of members in multilingual teams, alongside fluency in the vehicular language (Templer et al., 2006; Esfandagheh et al., 2012). While these effects are prone to be discussed right after this chapter, cultural intelligence and extraversion remain to be discussed in detail for now.

3.1. Cultural Intelligence

An individual's aptitude to perform and cope within multicultural settings is defined as cultural intelligence, often abbreviated to "CQ" (Ang et al., 2007). This intelligence type isn't wedged to the demonstration of cultural cognitive knowledge, but rather extended to a combination of social, emotional and practical intelligence scopes, when all are applied to multicultural contexts (Ang & Inkpen, 2008). This is why it is also demonstrated as "cultural competence".

According to Earley & Ang's primary work on cultural intelligence (as cited in Ang et al., 2007), CQ comprises four main dimensions: metacognitive, cognitive, motivational and behavioral.

The metacognitive dimension (metacognitive CQ) comprises mental, top-level cognitive processes used by individuals to the acquisition and management of cultural knowledge. Processes, such as the questioning of cultural assumptions or ethnic stereotyping, are part of this dimension.

Cognitive CQ, on the other hand, represents what's usually perceived to be cultural intelligence in a simplified way, normally as a demonstration of knowledge of some cultural norms and facts. One example of this is the familiarity someone can have with different ways of addressing people in various countries.

Motivational CQ represents one's capability of allocating energy and attention to cultural knowledge acquisition, based on the intrinsic interest and confidence in cross-cultural effectiveness.

Lastly, behavioral CQ embodies one's capabilities of displaying appropriate actions when dealing with people of other cultures. The three mental dimensions of CQ (metacognitive, cognitive and motivation) must be complemented by this last dimension, for an effective demonstration of a broad cultural knowledge.

Consequently, the effective demonstration of CQ has its outcomes in three main areas: cultural judgment and decision making, cultural adaptation and task performance in multicultural settings (Ang et al., 2007). Specifically, metacognitive CQ and cognitive CQ predict cultural judgment and decision making. Motivational CQ and behavioral CQ predicted cultural adaptation, and only metacognitive CQ and behavioral CQ predicted task performance. Task performance will be given more insight in the following chapters, when the analysis of cultural intelligence and the analysis of self-efficacy get to be crossed.

Alternatively, literature carries a vast amount of definitions and concepts similar to that of cultural intelligence, such as "intercultural competency" (Bird et al., 2010), "global mindset" (Javidan et al., 2016) and "cross-cultural adjustment" (Harrison et al., 1996). Also, literature applies the concept of cultural intelligence to teams and corporations.

Bird et al. (2010) define intercultural competency as one's capability to function effectively in another culture. This definition is very similar to CQ's designation, however it differs in its composition. The authors attribute three dimensions to this concept, namely the perception management, relationship management and self-management domains. These domains cover a solid part of those points belonging to CQ's dimensions, although they do it in a different way.

Javidan et al. (2016) mention leaders' capabilities of influencing others effectively, when referring "global mindset". This global mindset of leaders groups their own self-efficacies, which predict cross-cultural adjustment and actual task activity. The author also brings up the differences between women and men in the leadership, both reflecting different, yet positive aspects about intercultural outlooks and relationships, such as the passion for diversity in women, or cosmopolitan outlook in men.

Harrison et al. (1996) also approaches the term of "cross-cultural adjustment", already mentioned in the previous paragraph. These authors define it as the psychological

comfort degree of an individual in the host culture, based on his/her adjustment to certain elements, such as the general environment, nationals and the work whole setting.

To close, Moon (2013) applies the concept of cultural intelligence to teams. The author affirms that team's CQ attenuates some negative effects of cultural diversity in team performance. One reason behind this improvement lies on the direct influence of metacognitive, cognitive and motivational CQ in knowledge sharing, i.e. in the dissemination of acquired knowledge between colleagues (Chen & Lin, 2013).

3.2. Extraversion

According to Judge et al. (2007), personal differences are at least as important as self-efficacy in the prediction of job performance. Therefore, a group of personal traits, more specifically extraversion, is chosen as another factor in this work, which we believe to have impacts in self-efficacy in intercultural settings, where interpersonal relationships are crucial.

Extraversion is one of the pieces of the Five-Factor model. This model, also named "Big Five Personality Traits", is composed by five different dimensions of personality: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (McCrae & Costa, 1991). The dimensions are said to be the five major ones accounting for most differences in personality traits, and this model remains highly claimed by a lot of psychologists, such as (Esfandagheh, 2012).

According to McCrae & Costa (1991), Extraversion is associated with positive energy, talkativeness and attention seeking. The opposite of it best describes those who are distant, solitary and serious.

Summing up the other dimensions, Neuroticism denotes the degree of emotional instability and lack of control, normally common to anxious and impulsive people. The opposite of this fits calm and relaxed people, with higher locus of control. Openness (to experience) is another dimension of personality. It includes imaginative, sensitive, curious and broad-minded people, who always seek something new. Another dimension is Agreeableness, common to people who are usually cooperative, rather than competing and challenging one another every time. Finally, conscientiousness refers to organized, yet stubborn people, who tend to follow a specific path. The opposite lies to flexible and spontaneous counterparts.

Extraversion will be the sole personality dimension used as one of the moderating variables in this work's methodology. From the five dimensions, this is the one which we believe to be more related to the impacts driven from the presence of various cultures in working teams, especially when communication is a key essential point. Also, it is associated with positive attitudes towards to the work in multicultural settings (Moon, 2013).

Openness and agreeableness are two other personality dimensions with some regard in the multicultural setting. Open people are seen as able to dive into new experiences and perceived as more tolerant, while people scoring high in the agreeableness dimension are prompt to be sympathetic and cooperative (Hudson & Inkson, 2007). These dimensions were proven by these authors to be more present in aid workers, who dealt with different cultures, however these dimensions don't relate as much with language and communication, as extraversion does.

McCrae & Costa (1991) have also developed The NEO Personality Inventory, whose goal lies on the measure of these big five traits. As there is a general consensus on the value of Big Five Personality Traits as a comprehensive taxonomy of personality, the same authors joined forces to turn it into a measurable indicator, allowing people to better define their personality through means of applied surveys.

Extraversion is considered to have six main overlapping subdimensions, including Warmth, Gregariousness, Assertiveness, Activity, Excitement-seek and Positive emotions, all of them related to an extrovert's way of being.

Chapter 4. Investigation's hypothesis

All of this study's factors have been previously presented, namely "language diversity", "self-efficacy", "cultural intelligence" and "extraversion". Literature suggests that there are some direct and indirect relationships between some of them. Those relationships will be presented in this chapter, giving place to the definition of five hypothesis, due to be tested later on.

4.1. Linguistic diversity and self-efficacy

The main variables of this study, "language diversity" and "self-efficacy", will constitute the first and main hypothesis (H1). These variables were elucidated in the 1st and 2nd chapters before.

There is no noticeable correlation between these two terms in the literature explored. It is therefore a gap found in the literature, which this work aims to cover. There is however a number of studied elements, which are prone to predict the way these variables may relate to each other.

Much focus here is attributed to the negative impact of language diversity in group dynamics, already presented in the subchapter 1.2. A summary of those negative impacts is found in the next table:

Table 2: Negative impacts of language diversity in group dynamics

Author	**Impact**
(García & Cañado, 2005)	Power position – Native or proficient speakers of the native language will have advantage over others in the team, rising unfair differences of power, as a result of language, and not as a result of technical competences;
(Harzing et al., 2011)	Subgrouping – There is a tendency of groups to be formed within teams, due to linguistic connections, which may cause unnecessary conflicts;

(Henderson, 2005)	Interpretation – Misinterpretations and misperceptions can easily occur in linguistically diverse teams, even when a vehicular language is spoken. This can even reach the point of trust decrease.
(Tenzer & Pudelko, 2015)	Negative emotions – Anxiety, fear, embarrassment, stress, and frustration are some of the emotions common to the usage of other languages by members in a team. These emotions are also a result of the three previously listed impacts in this table.

Source: Author's elaboration

Even if literature has recently started regarding language diversity as a carrier of advantages to team dynamics (Cohen & Henderson, 2017), the widespread acceptance of the negative impacts in the literature suggest an harmful influence of language diversity in the perception of self-efficacy by members in linguistic diverse teams.

Bandura (1977) views emotions as a regulator and source of self-efficacy. Anxious and frightened people expect to perform worse than what they would expect, if they weren't experiencing those negative emotions. Anxiety may be applied to non-native speakers, derived from the lack of comfort they have with the vehicular language (Haley et al., 2015). However, it may also have roots on phenomena, such as code-switching, which may leave native and proficient speakers apart from the rest of the team, thus angry at them and consequently anxious (Tenzer & Pudelko, 2015).

Since literature indicates this bad influence of language diversity in the development of emotions in members, which may negatively source their self-efficacy perceptions, we suggest the very first hypothesis:

H1 *– The higher the linguistic diversity in a team, the smaller the level of self-efficacy perceived by its members is;*

4.2. Fluency in the vehicular language and self-efficacy

While the first hypothesis tries to test the connection between language diversity and self-efficacy, the second hypothesis assesses the influence of the fluency in the vehicular language in the perception of self-efficacy.

Non-native speakers have more language anxiety than natives at work (Haley et al., 2015). According to these authors, the more intense language anxiety is, the less intense are self-efficacy levels.

Concurrently, García & Cañado (2005), as previously mentioned in the chapter 1.4.1, affirm that those mastering the vehicular language tend to have more power in multicultural teams, while Tenzer & Pudelko (2017) say that those lacking capabilities in the lingua franca, will struggle to express their knowledge, becoming more anxious.

In short, literature advocates that fluency has an impacts in the members' self-efficacy, therefore the second hypothesis comes as follows:

H2 *– The higher the fluency of a member in the team's vehicular language, the higher the level of self-efficacy perceived by that member is;*

4.3. Fluency, language diversity and self-efficacy

We believe that language diversity has a mediator effect between fluency in the vehicular language and self-efficacy. While members of monocultural teams may not struggle to speak the vehicular language, since it is the same as their own mother tongue, members who are not fluent in their team's lingua franca may struggle more.

In order to test this assumption, which is a complement to the previous hypothesis, the third hypothesis states:

H3 *– The relationship between a member's fluency in the vehicular language of the team and the level of self-efficacy perceived by that member, is mediated by that team's language diversity.*

4.4. Fluency, cultural intelligence and self-efficacy

Besides language diversity, fluency is another important language factor affecting team dynamics (García & Cañado, 2005). However, unlike language diversity, fluency is common to the individual level, just as the factors of cultural intelligence and extraversion are. For that reason, the fourth and fifth hypothesis of this work deal with fluency, and not directly with language diversity.

To begin with cultural intelligence, some authors say that it has been found to have direct linkages with self-efficacy (Templer et al., 2016; Harrison et al., 1996; Moon, 2013). The two factors are generally shown to be connected. Similar concepts to "cultural intelligence", as presented in the chapter 3.1., are used here as proxies to CQ.

Templer et al. (2016) have tested and concluded that self-efficacy predicts cross-cultural adjustment and actual task activity. Behind this lie findings on how motivational CQ holds a self-efficacy component, which is allied to intrinsic motivation to foretell cultural adjustment. Twenty years before Templer et al., Harrison et al. (1996) also showed that people, who demonstrated higher levels of general self-efficacy, presented better cross-cultural interaction and work adjustment.

This impact of cultural intelligence in self-efficacy may be an indicator of the mediator effect of cultural intelligence in the relationship between fluency and self-efficacy. All of this leads us to the fourth hypothesis:

H4 *– The relationship between a member's fluency in the vehicular language of the team and the level of self-efficacy perceived by that member, is mediated by that member's cultural intelligence.*

4.5. Fluency, extraversion and self-efficacy

It has been stated that extraversion is associated with positive attitudes towards to the work in multicultural settings (Moon, 2013). Extraverts are associated with positive energy, talkativeness and attention seeking (McCrae & Costa, 1991), therefore they are more exposed to communication with other team members.

For instance, according to Esfandagheh et al. (2012), training is one of the processes in teams, which can boost team and corporation performance. Training can be also a state of intensive communication between two or more colleagues. With this, these authors further state that extraversion is positively related to pre and post-training self-efficacy, because a more powerful communication, proper to extroverts, allows their energy levels to boost their self-efficacy degree.

Also, as stated in the chapter 2.1., vicarious experience is one of the sources of self-efficacy (Bandura, 1977). In other words, the experience of others may influence one's self-efficacy. Mischel et al. (1973) advocate that either positive or negative experiences increase attention to positive or negative personality info about the self, respectively. Furthermore, success not only increases own positive reactions, but it also seems to facilitate benign reactions toward other people. When a proper communication is established, the message of success or failure can be fully transmitted. Extroverts are usually better at communicating, thus they may enhance this source of self-efficacy towards others and themselves. This communication may even be better, if they are fluent in the vehicular language. So, the formulation of the fifth and last hypothesis is as follows:

H5 *– The relationship between a member's fluency in the vehicular language of the team and the level of self-efficacy perceived by that member, is mediated by that member's extraversion levels.*

Chapter 5. Methodology

The hypothesis formulation, established in the previous chapter, requires supporting data, in order to validate the hypothesis' veracity. A quantitative analysis was employed during the course of this work, using a survey made available online for university students.

The quantitative analysis methodology aims at testing the hypothesis established in the previous chapter, with internal and external validity (Lowhorn, 2007), and also intends to cover diversity, in what concerns language.

This chapter will advance with a detailed explanation of this survey's measures and their groundwork, finishing with the procedures taken to collect the data.

5.1. Survey measures and respective fundaments

The measuring of the variables present in the survey is traced to the works on the language fluency assessment (Council of Europe, 2001), on the General Self-Efficacy (Jerusalem & Schwarzer, 1981), on Cultural Intelligence (Van Dyne, 2005), and on Extraversion from NEO-FFI (McCrae & Costa, 1991) questionnaires. These authors have originally developed the correspondent scales to measure each variable, with some adjustments over the years. Each measure/scale will be presented individually, totalizing four scales. The last three scales of this chapter had already been adapted for the Portuguese population, which is relevant for this study, since Portuguese respondents form the majority of answers of the survey, as properly depicted in chapter 6.1.

Since its early years, the European Union has been putting efforts on language and all of its implications in the community's everyday life. Within that effort's scope, the Council of Europe (2001) created a document entitled "Common European Framework of Reference for Languages", abbreviated as "CEFR", enabling a standardized description of foreign language's learners' achievements in the following language activities: listening, reading, spoken interaction, spoken production and writing. It is now widely used as an indicator of people's linguistic abilities, even outside Europe

(Mainichi Japan, 2017). This framework crosses the mentioned language activities with six performance levels, two for each language-ability stage, namely "Basic User", "Independent User" and "Proficient User". While "basic users" may speak the language to a certain degree, "proficient users" are able to master the idiom, even when it is presented in various, non-expected ways (Council of Europe, 2001). This framework is used in this research to evaluate the fluency of the team member in the team's vehicular language, by analyzing his/her self-assessment in CEFR.

The measuring of self-efficacy is made through the General Self-Efficacy scale. According to Harrison et al. (1996), general self-efficacy is more determinant than task-specific self-efficacy in ambiguous and less familiar situations. Since multilingual teams are characterized by diverse sets of cultures and languages, communication suffers some impact from misinterpretations at various levels, leading to a degree of ambiguity in teams (Henderson, 2005). Therefore, the present scale was opted to be the proxy of said variable in this study. It was originally developed by Jerusalem & Schwarzer (1981), and it was slightly adapted in the survey to fit the experience in teams, by rewriting the sentences in the past tense and replacing some words with those related to the team environment, as shown in italics. The adapted scale is shown below.

Table 3: General Self-Efficacy Scale (adaptation to team environment shown in *italics*)

Item	**Description**
1	I can always manage to solve difficult problems if I try hard enough. *I could always manage to solve difficult problems, if I tried enough.*
2	If someone opposes me, I can find the means and ways to get what I want. *If a colleague opposed me, I could find means and ways to get what I wanted.*
3	It is easy for me to stick to my aims and accomplish my goals. *It was easy for me to stick to my aims and accomplish my goals.*
4	I am confident that I could deal efficiently with unexpected events.

	I was confident that I could deal efficiently with unexpected events.
5	Thanks to my resourcefulness, I know how to handle unforeseen situations. *Thanks to my resourcefulness, I knew how to handle unforeseen situations.*
6	I can solve most problems if I invest the necessary effort. *I could solve most problems if I invested the necessary effort.*
7	I can remain calm when facing difficulties because I can rely on my coping abilities. *I could remain calm when facing difficulties, because I could rely on my coping abilities.*
8	When I am confronted with a problem, I can usually find several solutions. *When confronted with a problem, I could usually find several solutions.*
9	If I am in trouble, I can usually think of a solution. *If in trouble, I could usually think of a solution.*
10	I can usually handle whatever comes my way. *I could usually handle whatever came in my way.*

Source: Author's elaboration, adapted from Jerusalem & Schwarzer (1981)

This General Self-Efficacy Scale was validated to the Portuguese population by Araújo & Moura (2011), with a sample of 536 respondents and a Cronbach's Alpha of 0.870, which is higher than the reference value of 0.700 defined by Cortina (1993).

Thirdly, the participant's cultural intelligence measurement was made possible due to Van Dyne (2005)'s scale. This scale is composed by 20 items, which weren't modified to fit the study, since they absolutely represent the needs of the measurement. The items are distributed to the four dimensions of cultural intelligence. The items and their respective distributions are shown in the following table.

Table 4: Four Factor Cultural Intelligence Scale

Dimension	Item	Description
Metacognitive or Strategy	1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
	2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
	3	I am conscious of the cultural knowledge I apply to cross-cultural interactions.
	4	I check the accuracy of my cultural knowledge as I interact with people from different cultures.
Cognitive or Knowledge	5	I know the legal and economic systems of other cultures.
	6	I know the rules (e.g., vocabulary, grammar) of other languages.
	7	I know the cultural values and religious beliefs of other cultures.
	8	I know the marriage systems of other cultures.
	9	I know the arts and crafts of other cultures.
	10	I know the rules for expressing non-verbal behaviors in other cultures.
Motivation	11	I enjoy interacting with people from different cultures.
	12	I am confident that I can socialize with locals in a culture that is unfamiliar to me.
	13	I am sure I can deal with the stresses of adjusting to a culture

		that is new to me.
	14	I enjoy living in cultures that are unfamiliar to me.
	15	I am confident that I can get accustomed to the shopping conditions in a different culture.
Behaviour	16	I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
	17	I use pause and silence differently to suit different cross-cultural situations.
	18	I vary the rate of my speaking when a cross-cultural situation requires it.
	19	I change my non-verbal behavior when a cross-cultural interaction requires it.
	20	I alter my facial expressions when a cross-cultural interaction requires it.

Source: Van Dyne (2005)

This Four Factor Cultural Intelligence Scale is validated to the same population by Sousa et al. (2015), based on a sample of 275 respondents and on a Cronbach's Alpha of 0.930, also higher than the 0.700 reference value.

Finally, extraversion levels of the survey's participants were based on the personality inventory of McCrae & Costa (1991), known as NEO-FFI. Based on what is known as the Big Five theory of personality, this list of items is used in many psychology studies, in order to analyze studied individuals, and has been updated and revised many times. The list covers the big five traits of personality already mentioned in the chapter 3.2., from which extraversion was implemented in this survey for the previously stated reasons in the same chapter. The resultant 12-item list is as follows. Note that items no.

6, 9 and 12 were the ones whose evaluating scale was reversed, for statistical and correlational purposes, because these items refer to negative states of extraversion.

Table 5: Extraversion Scale (extracted from the NEO-FFI Personality Inventory)

Item	**Description**
1	I enjoy having a lot of people around me.
2	I laugh easily.
3	I consider myself a happy person.
4	I really like talking to other people.
5	I like to be where the action is.
6	I usually prefer to do things alone.
7	A lot of times I feel myself bursting out with energy.
8	I am a joyful and cheerful person.
9	I am not a big optimist.
10	My life is fast-paced.
11	I am a very active person.
12	I prefer to deal with my own life, rather than be the boss of other people.

Source: McCrae & Costa (1991)

The Extraversion Scale was also validated to the Portuguese population by Pedroso-Lima et al. (2014), in a study of the psychometric properties of the NEO-FFI, counting on a sample of 1178 respondents and on a Cronbach's Alpha of 0.800.

The survey's item relative to the linguistic diversity of the participant's team was the sole not to have roots in any reviewed work. It is based on a simple numeric integer scale, representing the number of languages of the participant's referred team. The consideration of the relativeness between languages in the measurement of language diversity was discarded in this work, since it would require further measurements of the relationships between all the languages in each group of the survey. This would only be practical in the statistical analysis of very big samples, given the big number of possible combinations coming from this type of measurement; instead, the authors opted to test only the internal consistency of the instrument via Cronbach's alpha.

All the three first mentioned measure tools are based on Likert-type scales, used to let participants tell their agreement level to each statement. General self-efficacy used a five-point Likert scale, while the other two (extraversion and cultural intelligence) scales used a seven-point Likert scale.

Additionally, four questions were included, analyzing the perception of the respondents about the impact of language diversity in their groups. The answers were only valid for participants, whose groups were multicultural. A five-point Likert scale was used in this group of questions.

5.2. Data collection procedures

The data collection used a survey made available to university undergraduate and master-level students of the various faculties of University of Porto, in Portugal. This is in line with the author's proposition, stating that university students are the next generation to enter the labor market, and that they are experiencing international academic contexts before arriving in said labor market.

The University of Porto has nearly thirty thousand students, fourteen faculties and more than six hundred courses. Foreign students make up more than twelve percent of the total number of this university's students (Universidade do Porto, 2016). Thus, this university has a considerable international characteristic. Therefore, the emailing platform, common to most University of Porto's faculties, was used as the launch pad of the survey to the academic population. From those fourteen faculties, the survey was sent to twelve of them, namely to *Faculdade de Arquitetura*, *Faculdade de Belas Artes*, *Faculdade de Ciências*, *Faculdade de Ciências da Nutrição e Alimentação*, *Faculdade de Desporto*, *Faculdade de Direito*, *Faculdade de Economia*, *Faculdade de Farmácia*, *Faculdade de Letras*, *Faculdade de Medicina*, *Faculdade de Medicina Dentária*, and to *Faculdade de Psicologia e de Ciências da Educação*.

The survey was open from the 2nd May 2017 to the 26th June 2017, and it was sent to the same population four times. A Portuguese and an English version of the survey were emailed in the same message, so that both Portuguese and foreign students could answer the survey with negligible linguistic barriers.

Structure-wise the survey was composed of 48 items. The first item is related to linguistic diversity in the team of the participant, 5 items concern the participants' fluency in the team's vehicular language, 10 are about the participant's self-efficacy, 20 items refer to his/her cultural intelligence, and finally 12 focus on the participant's extraversion level. The survey included 20 support/sociodemographic questions, in order to enrich the final analysis, and two open questions were added, which let each participant leave comments/suggestions, as well as his/her email address, should the participant wish to receive a summary of this work's results.

Chapter 6. Results

After the collection of data, the results from the survey were analyzed. The analysis was conducted using SPSS (Statistical Package for the Social Sciences) and AMOS, both in their 24th version. Exploratory data analysis was conducted in order to characterize the sample; instruments' reliability was tested using Cronbach's alpha, and instruments' validity was assessed using exploratory factor analysis. Early hypotheses testing was done using Pearson's correlation and furthered using Structural Equations Modelling (SEM).

The statistical characterization of the sample follows in chapter 6.1. The rest of the sixth chapter is devoted to the description of each instrument's validity and reliability in chapter 6.2, to the exposition of the tests and hypothesis results in chapter 6.3, ending with chapter 6.4 dedicated to discuss the obtained results.

6.1. Sample

The sample was composed of 240 respondents. 246 respondents took part in the survey, however six questionnaire responses needed to be eliminated due to excessive missing values. The response rate is estimated to be very low, around 0.8%, since the survey was sent to the nearly thirty thousand students currently studying in Universidade do Porto, and also to former students. However, the number of responses was adequate, allowing the authors to proceed with the statistical procedures and consequent tests.

The largest proportion of respondents were female, representing more than the double of the number of male respondents (see Figure 1). One respondent didn't identify as female, nor as male, and another one preferred not to answer this question.

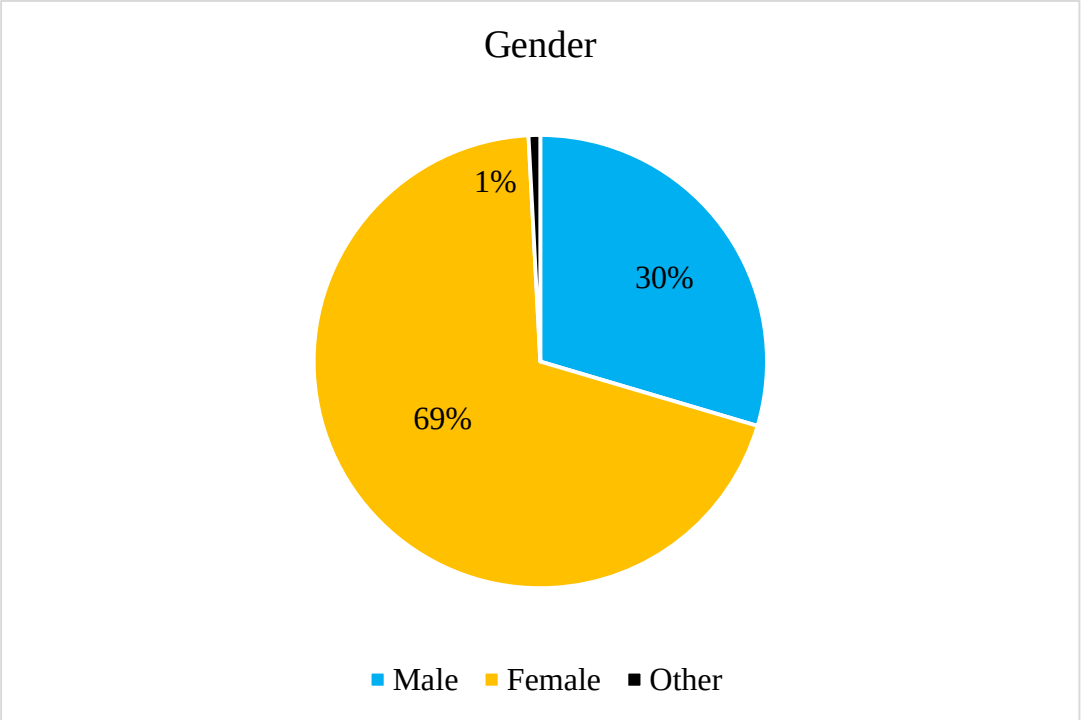

Figure 1 – Gender composition of the respondents

Most of the respondents were under 25 years old, totalizing nearly two thirds of the sample (M = 25.67; SD = 7.92; Min = 18; Max = 65). The age group distribution can be observed in Figure 2.

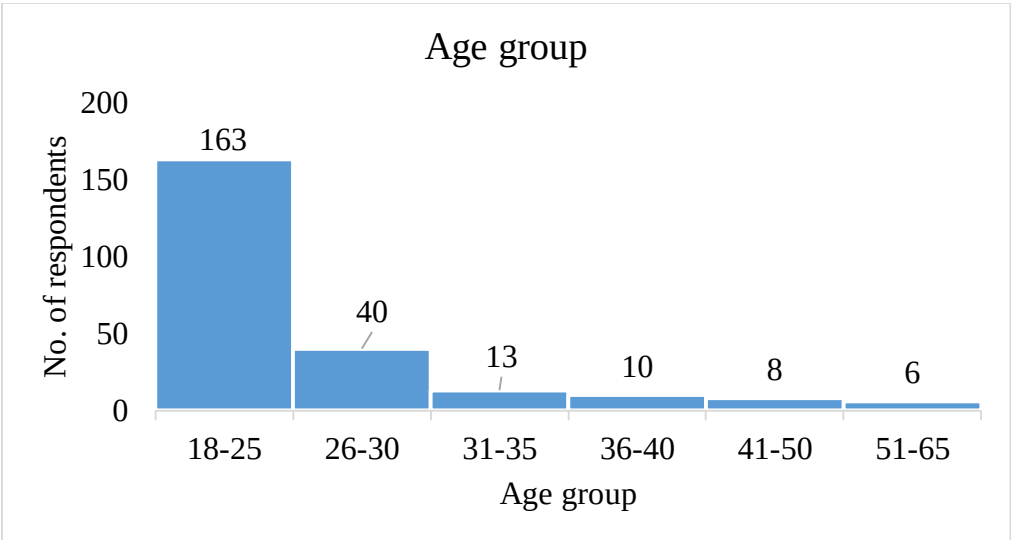

Figure 2 – Age of the respondents

Concerning the respondents' language diversity, table 6 presents a segmentation of the number of participant's native languages per language family.

It is important to note that seven different language families are present in the sample of this study, but also that Portuguese is by far the most common language of the participants.

The presence of distant languages to the university where the survey was launched is also interesting, such as the languages of Nkwen, Tongan, SeSotho, or even Azeri. Despite a concentration of participants having Portuguese as their native language, the sample covers a significant diversity of other languages.

Table 6 – Language families of the participants

Language family	Frequency	Percentage
Indo-European	232	96.7%
Of which: ***Portuguese***	*206*	*85.8%*
Turkic	2	0.8%
Niger-Congo	2	0.8%
Uralic	1	0.4%
Sino-Tibetan	1	0.4%
Tai-Kadai	1	0.4%
Austronesian	1	0.4%
Total	240	100%

Regarding the completed academic level of the participants, most had only completed highschool. However, there is a considering number of participants, who already have

completed their master degree and doctorate, which indicates that not only students responded to the survey. Table 7 depicts this in a more detailed way.

Table 7 – Completed academic level of the participants

Completed academic level	Frequency	Percentage
Highschool	91	37.9%
Bachelor degree	66	27.5%
Master degree	72	30.0%
Doctorate (PhD)	11	4.6%
Total	240	100%

An interesting analysis point is also present in the distribution of the academic field of the participants. Most participants come from the linguistics and economics fields of studies, and this work's topics are concentrated in people management and linguistics fields of studies. This may tell us why this survey's topic caught the attention of these students, and not so much sports students, for instance.

The survey was launched to the some faculties of University of Porto, as written in chapter 5.2, hence the presence of different academic fields in the sample (as seen in Table 8).

Table 8 – Academic fields of the participants

Academic field	Frequency	Percentage
Linguistics	51	21.3%
Economics	43	17.9%
Health Sciences	37	15.4%
Natural Sciences	21	8.8%
Architecture	15	6.3%
Engineering	14	5.8%
Psychology	13	5.4%
None	12	5.0%
Law	10	4.2%
Mathematics	9	3.8%
Arts	8	3.3%
Multiple	5	2.1%
Sports	2	0.8%
Total	240	100%

It is also important to show the different vehicular languages of the sample's groups (Table 9). The majority of the answers (94.6%) referred Portuguese and English as the vehicular languages of the respective groups. However, other eight vehicular languages figured out in this sample. All of the following ten languages belong to the Indo-European language family.

Table 9 – Vehicular languages of the participants' groups

Language	Frequency	Percentage
Portuguese	138	57.5%
English	89	37.1%
Catalan	1	0.4%
Dutch	2	0.8%
French	2	0.8%
German	2	0.8%
Greek	1	0.4%
Luxembourgish	1	0.4%
Spanish	3	1.3%
Swedish	1	0.4%
Total	240	100%

Finally, a series of four questions were asked regarding respondents' perceptions about the language impact in their teams. This was not considered in the statistical analysis of hypothesis, because these four questions only applied to respondents, whose groups were multicultural (141 out of the 240 respondents). However, this is an important subject of discussion. Table 10 summarizes the percentage of the 141 respondents per question, according to their agreement level to the questions/statements. As previously mentioned in chapter 5.1, a five-point Likert scale was used here, where "5" reflects a total agreeableness of the respondent towards the statement, and "1" the opposite.

Table 10 – Respondents' perception of language diversity impacts in their teams

Statement	1	2	3	4	5	Total
"The differences between the native languages was an obstacle within the team's interaction"	19.9%	41.1%	17.7%	19.1%	2.1%	100%
"There was place to misunderstandings due to linguistic differences"	39.7%	24.8%	18.4%	14.2%	2.8%	100%
"The linguistic differences allowed a higher level of interaction between the members"	9.9%	19.1%	42.6%	23.4%	5.0%	100%
"The group's performance was positively influenced by each member's native language"	11.3%	19.9%	41.1%	20.6%	7.1%	100%

All the most popular answers for each question involved around 40% of the respondents. People believe that the language differences were not a big obstacle for the teams' interaction, neither were they a trigger for misunderstandings. On the other hand, there is no clear perceived impact of language differences in the interaction between team members, nor in the teams' performance.

6.2. Instrument validity and reliability

The four instruments used in this study were all subject to internal reliability tests and to validation procedures, namely exploratory factor analysis. This subchapter covers the psychometric properties of the instruments, in order to proceed with the hypothesis' tests afterwards.

Reliability

In terms of reliability, Cronbach's Alpha (α) was calculated. Whenever this statistic shows a value higher than 0.700, the scale is suitable for usage in the statistical models, as its composing items are consistent (Cortina, 1993). A table follows with the values of Cronbach's Alpha for each one of the instruments.

Table 11 – Cronbach's alpha results for each one of the used instruments

Instrument/Scale	α	Items
CEFR (Language fluency)	0.975	5
Generalized Self-Efficacy	0.876	10
Cultural Intelligence	0.928	20
Extraversion	0.824	12

All the used scales show very good reliability, higher than the mark of 0.700. Previous works had already indicated good psychometric properties of most instruments chosen for this work, just as mentioned in the chapter 5.1. The work of Araújo & Moura (2011) was applied to the validation of the Generalized Self-Efficacy scale with a sample of 536 respondents, the one of Sousa et al. (2015) for the validation of the Cultural Intelligence scale with a sample of 275 respondents, and the work of Pedroso-Lima et

al. (2014) for the validation of the NEO-FFi scale, from which the elements of extraversion's measure come from, with a sample of 1178 participants.

Validity

Regarding the instruments' validity, an exploratory factor analysis for the four scales was conducted. The factorability of each set of items was assessed using the Kaiser-Meyer-Olkin measure of sampling adequacy (all sets of items scored well above the commonly recommended value of .6), and Bartlett's test of sphericity (the test was significant in all cases). However, in order not to extend excessively the methodology description part, the values of these two measurements will not be presented.

Principal components analysis was used, because the primary purpose was to identify and compute composite scores for the factors underlying the scales (Marôco, 2014), and varimax rotations of the factor loading matrix were chosen in each case.

The factor structures we were faced with are consistent with the literature on each scale, and no adjustments were necessary to ensure the instrument's validity.

The twenty-item scale of cultural intelligence is composed of four different dimensions (Ang et al., 2007). An orthogonal (varimax) rotation of data resulted in the same four dimensions predicted by the authors of the scale, as depicted in Table 12.

Table 12 – Factor loadings from Principal-Components Analysis for the Cultural Intelligence scale: Communalities and Percentages of Variance

Item	Factor loading				Communality
	1	2	3	4	
CI20B	.763				0.629
CI19B	.759				0.718
CI16B	.742				0.695
CI18B	.684				0.553
CI17B	.654				0.572
CI14M		.784			0.695
CI13M		.743			0.648
CI15M		.723			0.644
CI12M		.681			0.627
CI11M		.608			0.557
CI5K			.741		0.673
CI9K			.730		0.658
CI8K			.689		0.566
CI7K			.653		0.649
CI6K	.428		.597		0.558
CI10K			.578		0.574
CI1S				.766	0.797
CI3S				.706	0.721
CI4S				.538	0.555
CI2S		.451		.502	0.643
% of variance	18.379%	16.977%	16.518%	11.788%	

* Note: items ending in "B" correspond to the dimension of behavior, "M" to the motivational dimension, "K" to the knowledge one, and "S" to the strategy dimension of cultural intelligence.

The CEFR (Language Fluency) scale was the sole instrument for which we found no literature on; regardless, exploratory factor analysis procedures were conducted and results point to a consistent one dimension (language fluency) scale, as is visible in Table 13.

Table 13 – Factor loadings from Principal-Components Analysis for the CEFR (Language fluency) scale: Communalities and Percentages of Variance

Item	Factor loading	Communality
	1	
Listening	.965	0.931
Reading	.948	0.899
Spoken interaction	.952	0.906
Spoken production	.967	0.935
Writing	.940	0.884
% of variance	91.078%	

The General Self-Efficacy Scale had already been widely validated, and this analysis was used as a cautionary measure, should our study population show any specificities or particularities concerning this construct. The results confirmed the existing literature.

Table 14 – Factor loadings from Principal-Components Analysis for the General Self-Efficacy scale: Communalities and Percentages of Variance

Item	Factor loading	Communality
	1	
SE9	0.785	0.616
SE8	0.76	0.577
SE7	0.73	0.534
SE4	0.725	0.526
SE6	0.725	0.525
SE5	0.724	0.524
SE10	0.705	0.496
SE3	0.644	0.415
SE2	0.627	0.393
SE1	0.505	0.255
% of variance	48.620%	

Finally, the Extraversion component of the Big Five model, as assessed by the NEO-FFI, was tested, and the items can be grouped in one factor, despite lower values displayed by inverted items (items, 6, 9 and 12). Despite these values, we decided to keep all the items, since total variance explained was acceptable and reliability proved to have a good value; we felt that comparability with other studies could be jeopardized, if an item was removed from the set, thus retaining the solution found on table 15.

Table 15 – Factor loadings from Principal-Components Analysis for the Extraversion scale: Communalities and Percentages of Variance

Item	Factor loading	Communality
	1	
EX1	0.676	0.456
EX2	0.587	0.344
EX3	0.61	0.372
EX4	0.718	0.516
EX5	0.655	0.429
EX6_i	0.407	0.166
EX7	0.681	0.464
EX8	0.793	0.629
EX9_i	0.442	0.195
EX10	0.494	0.244
EX11	0.744	0.554
EX12_i	0.265	0.070
% of variance	36.993%	

6.3. Tests and hypothesis results

In order to test the hypothesis discriminated in the fourth section of this work, five models were designed and statistically tested, based in the connections between the consistent scales. Each model's goodness of fit was shown through the statistics of chi-squared (χ^2), degrees of freedom (DF), relative chi-squared (χ^2/DF), goodness of fit index (GFI), comparative fit index (CFI) and the root mean square error of approximation (RMSEA).

In consonance with the reference values of Marôco (2014), models fitting well a set of observations, are those whose chi-squared values are the lowest possible, or those, whose relative chi-squared values are lower than 2, or are at least acceptable, if the relative chi-squared values are lower than 5. Also, good reference values for the goodness of fit index (GFI) and comparative fit index (CFI) are those above 0.9, or above 0.8, in case of acceptable reference values. Lastly, the root mean square error of approximation (RMSEA) must be lower than 0.10, in order to be acceptable, according to the same author. This subchapter follows with the representation of each model.

1st model - Language diversity and self-efficacy

The first hypothesis is tested with the first model, which analyzes the impact of language diversity in self-efficacy. The physical representation of the structural equations model (SEM) is shown in Figure 3, while the regression estimates are shown in Table 16. Each self-efficacy's component is also depicted with each error of its own, in the rightmost part of the same figure.

Table 16 – Regression estimates of the SEM model for self-efficacy and language diversity

Path			β	SE	*p*
Self-efficacy	<---	Language diversity	0.003	0.023	0.906

*$p<0.05$; ** $p<0.01$; *** $p\leq0.001$

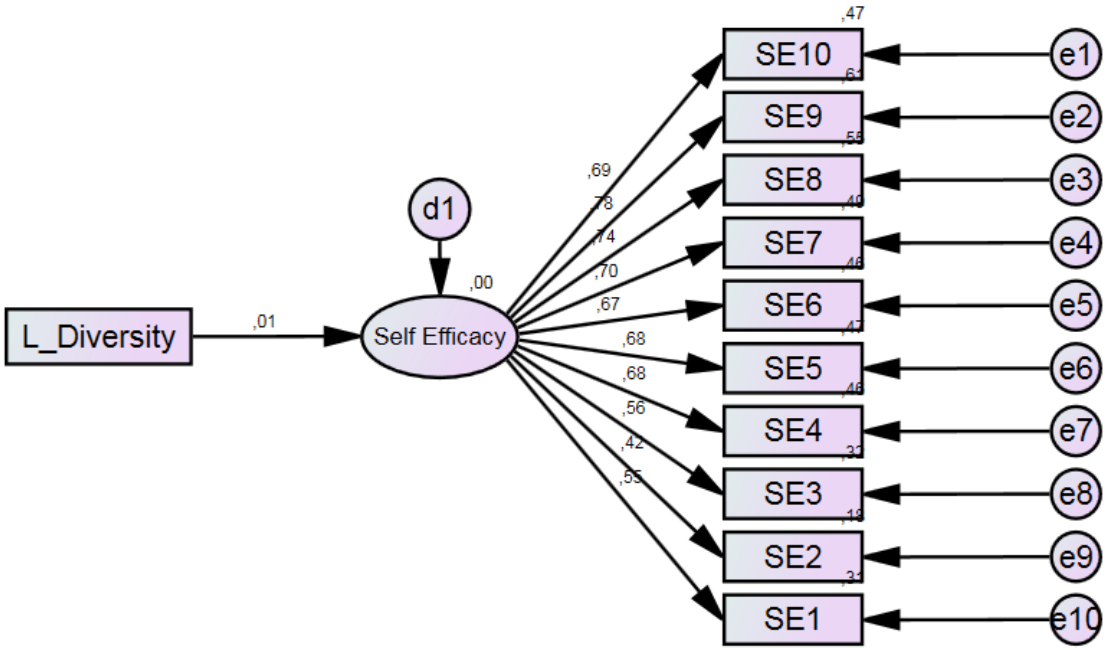

Figure 3 – Structural equations model for the different dimensions of self-efficacy and language diversity (*$\chi^2 = 157.286$, DF = 44, $\chi^2/DF = 3.575$, GFI = 0.887, CFI = 0.883, RMSEA = 0.104)*

The resulting values of this model proved a clear lack of relationship between language diversity and self-efficacy, as seen in Table 13. The regression's estimate is close to zero, and there is no significance, as the p-value is too high. Therefore, the first hypothesis is not verified for the sample.

2nd model – Fluency in the vehicular language and self-efficacy

The second model depicts the relationship of the second hypothesis, namely the impact of the fluency in the vehicular language in self-efficacy. All the variable's dimensions of fluency and self-efficacy are shown in Figure 4, as well as the connection between the variables. Table 17 shows the regression estimates for the same model.

Table 17 – Regression estimates of the SEM model for self-efficacy and fluency in the vehicular language

Path			β	SE	*p*
Self-efficacy	<---	Fluency Vehic. Language	0.075*	0.037	0.046

*p<0.05; ** p<0.01; *** $p\leq$0.001

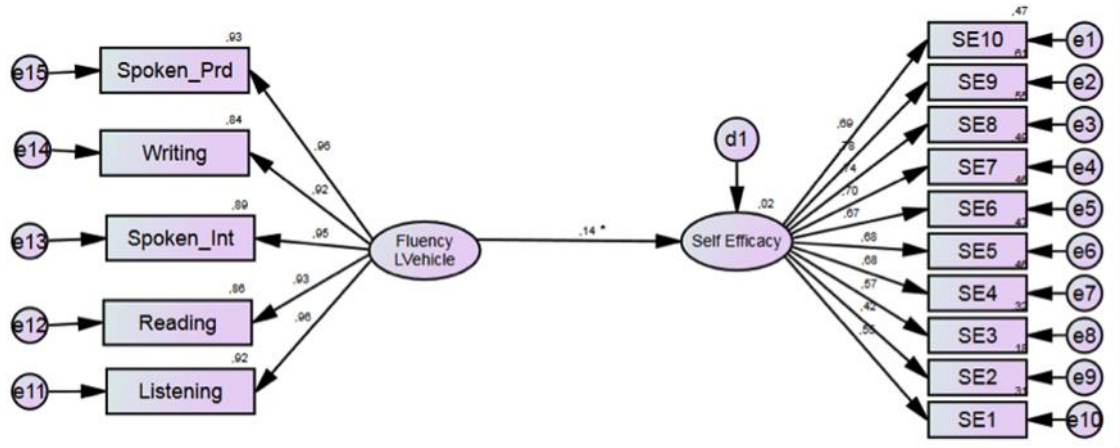

Figure 4 – Structural equations model for the different dimensions of self-efficacy and of fluency in the vehicular language (*χ^2 = 304.852, DF = 89, χ^2/DF = 3.425, GFI = 0.857, CFI = 0.924, RMSEA = 0.101)*

The model's results show a positive and significant impact of fluency in the vehicular language in self-efficacy, presenting good indicators for fitness (Marôco, 2014). Thus, the second hypothesis is accepted and fluency in the vehicular language seems to impact each member's self-efficacy.

3rd model – Fluency in the vehicular language, self-efficacy and language diversity

This model was created to test the mediating impact of language diversity in the relationship between fluency and self-efficacy, as the following Table 18 and Figure 5 represent.

Table 18 – Regression estimates of the SEM model for self-efficacy and fluency in the vehicular language, with the mediating impact of language diversity

Path			β	SE	*p*
Self-efficacy	<---	Fluency Vehic. Language	0.080*	0.039	0.037

*$p<0.05$; ** $p<0.01$; *** $p\leq0.001$

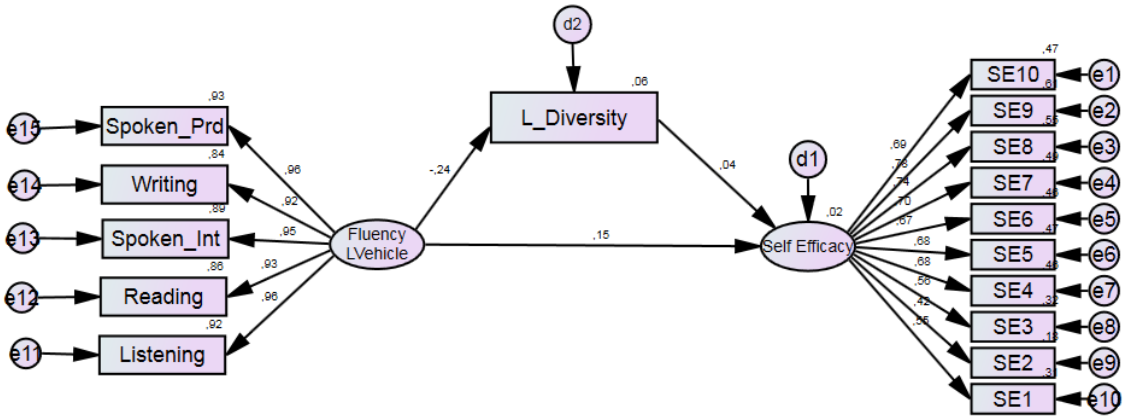

Figure 5 – Structural equations model for the different dimensions of self-efficacy and of fluency in the vehicular language, with the mediating effect of language diversity ($\chi^2 = 316.348$, $DF = 102$, $\chi^2/DF = 3.101$, $GFI = 0.860$, $CFI = 0.925$, $RMSEA = 0.094$)

The relationship between fluency in the vehicular language and self-efficacy is strengthened with the impact of language diversity. The estimate of the regression is 0.080, higher than the one in the second model, and the *p*-value is 0.037, lower than the one in the same referred model. The goodness of fit of this model is also acceptable

(Marôco, 2014). Consequently, the third hypothesis is accepted, and the impact of vehicular language fluency in self-efficacy is mediated by language diversity.

4th model – Fluency in the vehicular language, self-efficacy and cultural intelligence

This fourth model is also an adaptation of the second model, but now with the mediating factor of cultural intelligence. Figure 6 physically shows the model, together with the dimensions of cultural intelligence and respective errors, while Table 19 shows the regression estimates for this model.

Table 19 – Regression estimates of the SEM model for self-efficacy and fluency in the vehicular language, with the mediating impact of cultural intelligence (CQ)

Path			β	SE	*p*
Self-efficacy	<---	Fluency Vehic. Language	0.080*	0.037	0.030

*p<0.05; ** p<0.01; *** p≤0.001

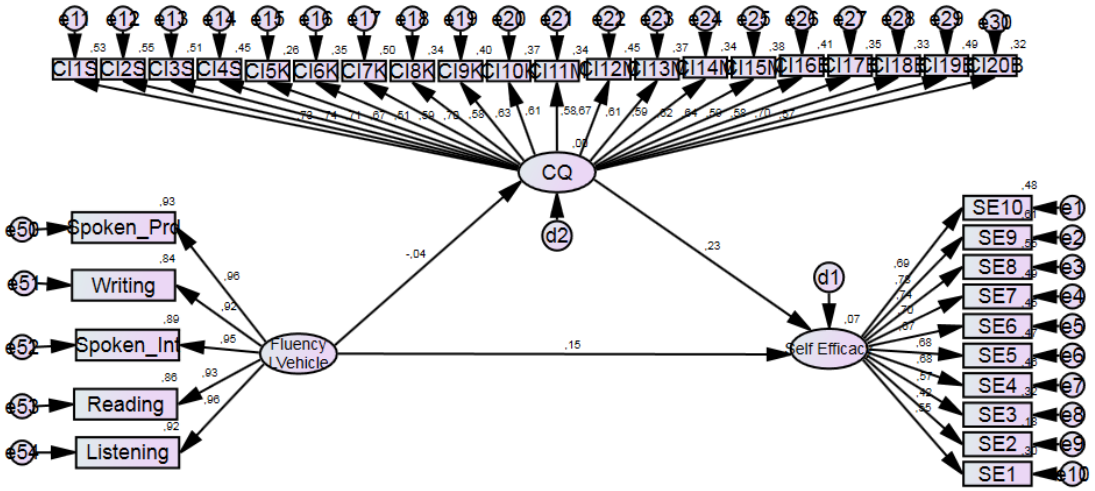

Figure 6 – Structural equations model for the different dimensions of self-efficacy and of fluency in the vehicular language, with the mediating effect of cultural intelligence

(χ^2 = 3633.852, DF = 1671, χ^2/DF = 2.175, GFI = 0.685, CFI = 0.821, RMSEA = 0.050)

The relationship between fluency in the vehicular language and self-efficacy is strengthened with the impact of cultural intelligence, which is higher than the impact of language diversity. The regression's estimate is 0.080, the same as the one in the third model, but the *p*-value is 0.030, lower than the one in the third model. The goodness of fit of this model is also acceptable, according to Marôco (2014). Therefore, the fourth hypothesis is accepted, which is to say that the impact of vehicular language fluency in self-efficacy is mediated by the level of cultural intelligence of the subjects.

5th model – Fluency in the vehicular language, self-efficacy and extraversion

Extraversion's mediation effect is due to be tested in the model, in what regards the same relationship shown in the second to fourth models. Figure 7 represents this last model, while Table 20 shows the regression estimates for the same model.

Table 20 – Regression estimates of the SEM model for self-efficacy and fluency in the vehicular language, with the mediating impact of extraversion

Path			β	SE	*p*
Self-efficacy	<---	Fluency Vehic. Language	0.095*	0.037	0.010

*$p<0.05$; ** $p<0.01$; *** $p\leq0.001$

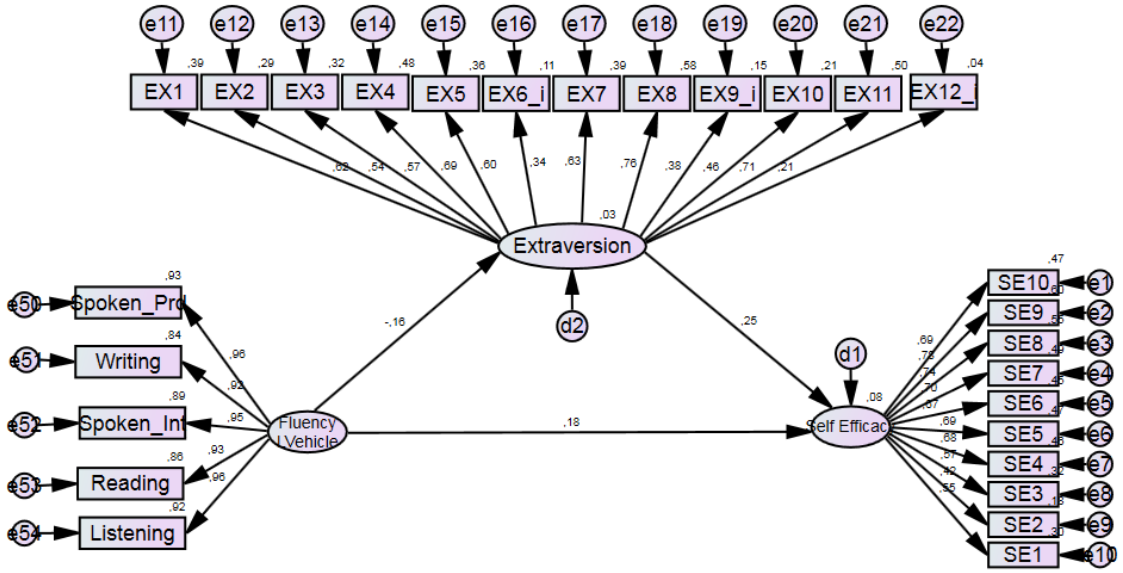

Figure 7 – Structural equations model for the different dimensions of self-efficacy and of fluency in the vehicular language, with the mediating effect of extraversion (χ^2 = *2195.400, DF = 963,* χ^2/DF *= 2.280, GFI = 0.747, CFI = 0.845 and RMSEA = 0.052)*

The relationship between fluency in the vehicular language and self-efficacy is even more strengthened with the impact of extraversion, which is higher than the impact of language diversity and cultural intelligence. The regression's estimate is 0.095, the highest of all models, and the *p*-value is 0.010, the lowest of all models too. The goodness of fit of this model is also acceptable, given the reference values of Marôco (2014). Finally, the fifth hypothesis is accepted, meaning that the impact of vehicular language fluency in self-efficacy is mediated by extraversion.

6.4. Discussion

Language diversity does not seem to impact self-efficacy. Literature had indirectly suggested, that a negative influence of language diversity in self-efficacy was likely, given the many negative impacts of language diversity in teams (García & Cañado, 2005; Harzing et al., 2011; Henderson, 2005; Tenzer & Pudelko, 2015) and the regulation characteristic of emotions as a source in self-efficacy (Bandura, 1977).

Although this first and critical result is not in line with most of the collected works, there are recent developments in literature refuting these negative impacts of language in team dynamics (Cohen & Henderson, 2017). These authors state that language must be regarded as a resource in teams, rather than a barrier. They view linguistic competences as a spectrum between languages, i.e. the linguistic competences are not independent from language to language. This knowledge spectrum may be a factor partially explaining this result. Overall, language diversity does not necessarily affect self-efficacy of team members.

Also, the language composition of each multicultural team may account for the impact of language diversity on self-efficacy. According to García & Cañado (2005), the power position of a member is increased, when that member is fluent in the vehicular language. However, this does not count with all the possible different group arrangements. For instance, there may be groups where no member is fluent in the vehicular language, despite the diversity of native languages in those groups being high, while other groups may be not too linguistically diverse, but they may suffer from the reported phenomena in group dynamics, such as code-switching. The different language arrangements in teams and its impacts may represent an important aspect to be studied in further language and management studies.

Unlike language diversity, fluency seems to impact self-efficacy, which is a confirming result of the literature. It suggests that the source of conflicts may happen due to the lack of fluency of team members, rather than to the language diversity itself. This connection had been indirectly shown by Haley et al. (2015), who advocated that people lacking fluency in the vehicular language sometimes demonstrated higher levels of anxiety, consequently showing lower degrees of self-efficacy. According to Tenzer &

Pudelko (2017), the anxiety comes from the difficulty perceived by these members to express their thoughts and knowledge in the vehicular language.

In order to enlarge the understanding about the impact of fluency on self-efficacy, a third model was designed and tested. The impact of fluency in the vehicular language and self-efficacy became stronger with the mediator effect of language diversity. This means that the fluency in the vehicular language becomes more determinant in a member's self-efficacy levels, as language diversity increases. This is much related to some conclusions taken by García & Cañado (2005). Taking an English speaker as an example, his power may be similar to his colleagues' power, if the team is only composed by English speakers. However his power may increase in multicultural teams, whose vehicular language is English. An increase in power may result in an increase in the perceived self-efficacy: a proposition that this work's authors suggest as a topic worth of further studying.

Lastly, the mediating effect of cultural intelligence and extraversion separately were also tested in this work, showing positive and more determinant results than those of language diversity. This means that the impact of fluency in the vehicular language on self-efficacy is higher when participants demonstrate higher levels of cultural intelligence and extraversion, because a mediator variables are presumed to transmit some of the causal effects of prior variables onto subsequent variables (Kline, 2011).

A justification for these results come from authors, such as Templer et al. (2016), Harrison et al. (1996) and Moon (2013), who had all studied and proved the existence of positive relationships between cultural intelligence and self-efficacy, as mentioned in the chapter 4.4. Also, Esfandagheh et al. (2012) showed positive connections between extraversion and self-efficacy, based on the communication abilities proper of extroverts, which let them express themselves better, strengthening their self-efficacy levels. Another justification for these results come from Ang et al. (2007), who commented on the motivational dimension of cultural intelligence, which can be an explaining dimension of the motivation for language learning. On the other side, extraverts are better at communicating (McCrae & Costa, 1991), becoming fluent in the vehicular language quicker, or at least apparently. Consequently, the positive

correlations and the existence of these mediating effects are a reinforcement of the indirect connections found in the literature.

Chapter 7. Limitations and further research

This work is not free from important limitations, giving the considerable number of terms involved in the analysis. This chapter briefly describes the limitations found, suggesting further research to cover these practical boundaries.

Language related limitations are, by far, the biggest proportion of boundaries to the efficient analysis in this work. Firstly, this work analyzed language diversity through a numerical lens, putting the relationship between languages aside. The choice of the numerical option was greatly due to statistical constraints. Future research may sum up the relation between languages into a number, reflecting the lexical and phonetic distances between languages in each group (Gooskens, 2007). However, this number must be conjugated with the number of languages in each groups, as well as with the language structure of each group, i.e. the number of people speaking each language in a group. This may require wider samples.

Secondly, regional differences in languages are not taken into account in this work, meaning the lack of consideration of accents and dialects. This is an important limitation, as monolinguistic teams may also suffer from the impacts in team dynamics indicated in the chapter 1.4., just as multicultural teams do at a bigger scale.

Thirdly, just as mentioned in the chapter 1.3., there is a general essentialist view on languages skills, which are regarded as language-specific, instead of as language-general skills. Other than the vehicular language, specific languages may be spoken between some members of the group, which can also affect the team's communication process. However, for the same statistical constraints mentioned above, this metacognitive component of language knowledge is not considered in this work. Future research may include this, by interconnecting the language portfolios of members. This suggestion leads us to the fourth point.

This point covers much of the variables used in the analysis. That is to say, this work was done through the individual lens, with factors, such as fluency, cultural knowledge and extraversion. Nevertheless, the impact of language diversity may be susceptible to have bigger impacts at the group level (García & Cañado, 2005). Further research may follow the analysis of the impacts of language diversity in group dynamics, but not

considering languages as static things, i.e. as independent entities from other languages, as the last suggestion voiced. This is in line with the suggestions of Cohen & Henderson (2017), aiming at researching other impacts of language diversity, rather than those negative and generally accepted ones.

Also, the survey was only applied to academic contexts, following the aim of this work to cover these aspects for students, which are the next generation to dive in the labor market. However, different results may come up, if the tested models are applied in other contexts, such as those from the professional world. However, those works must take a deeper look to other aspects, such as hierarchies.

Finally, a sixth limitation regards the survey that only recorded past academic experiences of respondents, which are kept, memorized and interpreted by them. The interpretation and memories of those experiences may not correspond to what participants necessarily lived. Therefore, a longitudinal study may be crucial in analyzing impacts of other variables in team dynamics together with language diversity, such as time.

Conclusions

Language aspects had been overlooked in management literature (García & Cañado, 2005). Only in the past two decades a number of scientists started devoting their time to the study of language implications in the corporate world, especially at the human resource level. However, this regard of literature still confers a negative vision of those language implications, mainly in team dynamics. This negative vision is considered as a result of the essentialist way people and researchers view linguistic aspects, such as fluency (Cohen & Henderson, 2017).

Therefore, this work aimed at verifying whether that literature's negative outlook was factual, by analysing the impacts of language diversity in self-efficacy of team members. Self-efficacy, a term which has its roots it the studies of Bandura (1977), is believed to predict job performance and, to a lesser degree, job satisfaction, two factors of relevance to people management (Judge & Bono, 2001; Judge et al., 1998; Judge et al., 2007; Stajkovic & Luthans, 1998).

The results clearly confirmed the lack of influence of language diversity on self-efficacy. This way, an important gap was covered in literature, as no other paper was found to directly show language diversity's impacts in self-efficacy. The further hypothesis and respective models showed a significant and positive relationship between fluency in the vehicular language and self-efficacy. This relationship is positively mediated by language diversity, suggesting the higher importance of fluency in diversity contexts, which confirms the propositions of García and Cañado (2005).

Also, the connection between fluency in the vehicular language and self-efficacy was positively mediated by the cultural intelligence and extraversion levels of team members. These factors were found in literature to have connections with people's self-efficacy levels, and this work aimed and managed to confirm their mediation effect in the mentioned relationship, mainly due to the motivational, cognitive and behavioral dimensions of cultural intelligence, and to the communication characteristic proper of extroverts.

Despite this work's contribution to literature, confirming the lack of impacts of language diversity alone in self-efficacy, the mediator effect of language diversity in the relationship between fluency and self-efficacy needs further research, as it is subject to

a considerable number of limitations. Those limitations are related the statistical difficulty to interpret a number of language aspects. These aspects cover other possible estimations of language diversity, such as coefficients indicating the relativeness between languages (Gooskens, 2007), but also regional differences in languages and the metacognitive dimension of language knowledge, which should give more complexity to language-related variables in further quantitative studies.

Finally, this work intends to foster a deeper and more critical insight of people management researchers to language aspects. As mentioned throughout the whole work, especially in the limitations presentation, language aspects are rich, and bring important analysis dimensions to people management research. This not only covers group dynamics phenomena, but also other corporate world scopes, such as recruitment and selection of professionals, or even training of multicultural team members, as to improve cultural and communication competences.

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Attachments

Survey – English version

Language diversity in university project teams

This survey will be the empirical basis for a dissertation of the Master in Management - Faculty of Economics of Porto. The goal is focused on assessing the effects of language diversity, among university project teams, in the perception of self-efficacy by team members.

It only takes you roughly 10 minutes to answer this survey. You should remember an experience of yours related to team projects in the university/academic context, whether it involves foreign colleagues or not. Thus you can answer this survey as many times as you wish, if you'd like to report different team project experiences.

Your identity will remain anonymous, and the data will be analysed at the global scale.

Thank you in advance for your collaboration!

Team data

Start by thinking about one team project that you've done in the university/academic context. Please answer the following questions concerning it.

Team's project title or topic *

A sua resposta

Project's academical level *

In which academic context was the project undertaken?

- ◯ Highschool
- ◯ Bachelor
- ◯ Master degree
- ◯ Doctorate (PhD)
- ◯ Outra:

Team members (quantity) *

How many members was your team formed by (number)?

A sua resposta

Team members' diversity *

List your colleagues' native languages or nationalities (please separate them by a comma or a bar).

A sua resposta

Team's way of communication *

	Never	Rarely	Sometimes	Often	Always
Face to face	○	○	○	○	○
Skype or similar video-conferencing tool	○	○	○	○	○
Mail	○	○	○	○	○
Social network's chat	○	○	○	○	○
Other	○	○	○	○	○

Language Self-Assessment

Considering your team's vehicular language (i.e. the main language spoken between you), please tell us how you evaluate your language level in the following areas, giving the Common European Framework of Reference for Languages.

Note: When in doubt about the meaning of each area/level, you may consult this following link: http://europass.cedefop.europa.eu/sites/default/files/cefr-en.pdf

Team's vehicular language *

(The main language spoken between the members of the team for working purposes)

A sua resposta

Your assessment *

	A1 - Basic User	A2 - Basic User	B1 - Independent User	B2 - Independent User	C1 - Proficient User	C2 - Proficient User
Listening	○	○	○	○	○	○
Reading	○	○	○	○	○	○
Spoken Interaction	○	○	○	○	○	○
Spoken Production	○	○	○	○	○	○
Writing	○	○	○	○	○	○

Experience in the team

How do you evaluate your experience in the referred team? *

	I totally disagree	I disagree	Neither agree or disagree	I agree	I totally agree
It was easy for me to stick to my aims and accomplish my goals.	○	○	○	○	○
If in trouble, I could usually think of a solution.	○	○	○	○	○
I could remain calm when facing difficulties, because I could rely on my coping abilities.	○	○	○	○	○
Thanks to my resourcefulness, I knew how to handle unforeseen situations.	○	○	○	○	○
I was confident that I could deal efficiently with unexpected events.	○	○	○	○	○
I could solve most problems if I invested the necessary effort.	○	○	○	○	○
I could usually handle whatever came in my way.	○	○	○	○	○
If a colleague opposed me, I could find means and ways to get what I wanted.	○	○	○	○	○
I could always manage to solve difficult problems, if I tried enough.	○	○	○	○	○
When confronted with a problem, I could usually find several solutions.	○	○	○	○	○

How do you view the impact of language in the team? *

If your team didn't include any foreign colleague, please select the middle option "Neither agree or disagree".

	I totally disagree	I disagree	Neither agree or disagree	I agree	I totally agree
There was place to misunderstandings due to linguistic differences.	○	○	○	○	○
The linguistic differences allowed a higher level of interaction between the members.	○	○	○	○	○
The group's performance was positively influenced by each member's native language.	○	○	○	○	○
The differences between the native languages was a an obstacle within the team's interaction.	○	○	○	○	○

Cultural Self-Assessment

This section invites you to briefly describe yourself in what concerns your intercultural vain. Your answer is equally valid for an experience without foreign people.

You may select only option for each statement, considering the following levels: 1- Entirely Disagree, 2 - Mostly Disagree, 3 - Somewhat Disagree, 4 - Neither Agree nor Disagree, 5- Somewhat Agree, 6 - Mostly Agree, and 7 - Entirely Agree.

*

	1	2	3	4	5	6	7
I alter my facial expressions when a cross-cultural interaction requires it.	○	○	○	○	○	○	○
I am conscious of the cultural knowledge I apply to cross-cultural interactions.	○	○	○	○	○	○	○
I am confident that I can socialize with locals in a culture that is unfamiliar to me.	○	○	○	○	○	○	○
I check the accuracy of my cultural knowledge as I interact with people from different cultures.	○	○	○	○	○	○	○
I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	○	○	○	○	○	○	○
I enjoy interacting with people from different cultures.	○	○	○	○	○	○	○
I am confident that I can get accustomed to the shopping conditions in a different culture.	○	○	○	○	○	○	○
I know the cultural values and religious beliefs of other cultures.	○	○	○	○	○	○	○

I know the rules (e.g., vocabulary, grammar) of other languages.	○	○	○	○	○	○	○
I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	○	○	○	○	○	○	○
I vary the rate of my speaking when a cross-cultural situation requires it.	○	○	○	○	○	○	○
I know the rules for expressing non-verbal behaviors in other cultures.	○	○	○	○	○	○	○
I know the marriage systems of other cultures.	○	○	○	○	○	○	○
I am sure I can deal with the stresses of adjusting to a culture that is new to me.	○	○	○	○	○	○	○

I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	○	○	○	○	○	○	○
I know the arts and crafts of other cultures.	○	○	○	○	○	○	○
I use pause and silence differently to suit different cross-cultural situations.	○	○	○	○	○	○	○
I know the legal and economic systems of other cultures.	○	○	○	○	○	○	○
I change my non-verbal behavior when a cross-cultural interaction requires it.	○	○	○	○	○	○	○
I enjoy living in cultures that are unfamiliar to me.	○	○	○	○	○	○	○

Personality Self-Assessment

Please describe some of your personality traits by checking whether you agree or disagree with the following statements when applied at you.

You may select only option for each statement, considering the following levels: 1- Entirely Disagree, 2 - Mostly Disagree, 3 - Somewhat Disagree, 4 - Neither Agree nor Disagree, 5- Somewhat Agree, 6 - Mostly Agree, and 7 - Entirely Agree.

*

	1	2	3	4	5	6	7
I enjoy having a lot of people around me.	○	○	○	○	○	○	○
I laugh easily.	○	○	○	○	○	○	○
I consider myself a happy person.	○	○	○	○	○	○	○
I really like talking to other people.	○	○	○	○	○	○	○
I like to be where the action is.	○	○	○	○	○	○	○
I usually prefer to do things alone.	○	○	○	○	○	○	○
A lot of times I feel myself bursting out with energy.	○	○	○	○	○	○	○
I am a joyful and cheerful person.	○	○	○	○	○	○	○
I am not a big optimist.	○	○	○	○	○	○	○
My life is fast-paced.	○	○	○	○	○	○	○
I am a very active person.	○	○	○	○	○	○	○
I prefer to deal with my own life, rather than be the boss of other people.	○	○	○	○	○	○	○

Sociodemographic data

In order to conclude this survey, please provide us general data about you in the following questions, which will help us in what regards our statistical analysis.

Nationality *

A sua resposta

Native language *

A sua resposta

Age *

A sua resposta

Gender *

- ○ Male
- ○ Female
- ○ Outra:

Your academic level (complete) *

- ○ Highschool
- ○ Bachelor
- ○ Master degree
- ○ Doctorate (PhD)
- ○ Outra:

Academic field of studies *

A sua resposta

If you would like to leave any comments or suggestions regarding this survey, please leave them here:

A sua resposta

If you would like to receive this survey's results, please insert your mail here:

A sua resposta